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EXAMINER

SOL, ANTHONY M

ART UNIT

PAPER NUMBER

2616

DATE MAILED: 09/06/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | | |
|------------------------------|------------------------|--|---------------------|--|
| Office Action Summary | Application No. | | Applicant(s) | |
| | 09/742,578 | | OZLUTURK ET AL. | |
| | Examiner | | Art Unit | |
| | Anthony Sol | | 2616 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 October 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 31-46 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 31-46 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

- Applicant's Request for Continued Examination filed 10/24/2005 is acknowledged.
- Claims 2-30 have been canceled.
- Claims 31-46 have been added.
- Claims 31-46 remain pending.

Claim Objections

1. Claim 46 is objected to because of the following informalities:
 - For claim 46, line 1, it is believed that "of claim 31" should state --of claim 39--.

Appropriate correction is required.

Double Patenting

2. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory

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double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

3. Claim 31 and 39 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 21 of U.S. Patent No. 5,841,768 in view of U.S. Patent No. 6,038,577 ("Burshtein").

Regarding claims 31 and 39,

The claim 21 of the patent number 5,841,768 disclose:

A communication system for communicating between a base station and at least one subscriber unit, said communication system including a system for initial power control, said power control system comprising:

said subscriber unit comprising:

means for periodically transmitting (Instant application's claim 39 – *transmitter*) a short access code having a predetermined length to said base station; said short access code (Instant application's claim 39 – *first signal*); being transmitted at a first power level;

means for increasing said power level at a first power ramp-up rate;

means for detecting a transmission from said base station which confirms the receipt of said short access code at said base station; and

means, responsive to said detecting means, for periodically transmitting a long access code (Instant application's claim 39 – *second signal*); a second increasing power ramp-up rate; said long access code having a predetermined length which is an even multiple of said short access code said second ramp-up rate being less than said first power increase rate;
and

said base station comprising:

means for detecting (Instant application's claim 31 – *code detector*) transmissions from at least one said subscriber unit including said short (Instant application's claim 31 – *first signal*) and long access codes (Instant application's claim 31 – *second signal*); and

transmission means, responsive to said detecting means, for transmitting a confirmation signal to said subscriber unit when said access codes are detected.

Applicant's claims 31 and 39 merely add an additional element of "a linear feedback shift register configured to produce a base code."

However, Burshtein discloses that linear feedback shift registers (LFSRs) are employed in a variety of applications, including generating the pseudo-random spreading codes used in code division multiple access (CDMA) transmission systems (Burshtein, col. 1, lines 12-15).

It would have been *prima facie* obvious to one of ordinary skill in the art at the time of the invention was made to modify the initial power control system of U.S. Patent No. 5,841,768 to include a LFSR as disclosed by Burshtein. One skilled in the art would have been motivated to make the combination since LFSRs are well known in the art of CDMA communications to generate pseudo-random spreading codes (Burshtein, col. 1, lines 12-13)

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 31-46 are rejected under 35 U.S.C. 112, second paragraph, as being

indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claims 31 and 39,

In claims 31 and 39, line 2, it is not clear what is meant by "base code."

There is no mention of "base code" in the specification and the meaning cannot be clearly determined by one of ordinary skill in the art. Does the Applicant mean "spreading code?" The phrase "base code" is sometimes used to mean "seed."

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 31-37 and 39-45 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,590,889 B1 ("Preuss") in view of Pub No. US 2004/0005020 A1 ("Dent").

Regarding claim 31,

Preuss discloses a linear feedback shift register configured to produce a base code (col. 9, lines 5-6, 20-23, *codes are derived from a family of codes obtained from a base code...linear feedback shift register that generates... binary elements*).

Preuss further discloses a code detector configured to detect repeatedly

transmitted first signals using the base code (col. 3, lines 53-59, *receiver then detects the code using a correlator*), each first signal including a first portion of the base code (fig. 13, *S-BLOCK 1306*, col. 5, lines 67 to col. 6, line 1, *S blocks are used for transmitting synchronization and frame number information*).

Preuss does not disclose that the first signals are used to aid in acquisition of a second signal and does not disclose wherein the code detector is configured, after detection of the first signal, to detect the second signal using the base code.

Dent discloses a multi-stage synchronization process wherein the first stage is designed to speed the detection of any signal, by limiting the number of codes used for the first detections stage and later stages of synchronization are performed using only the limited number of candidate signals defined by the parameters identified in the earlier stage (para. 46).

It would have been *prima facie* obvious to one of ordinary skill in the art at the time of the invention was made to modify the data communication system of Preuss to include a multi-stage synchronization process as taught by Dent. One skilled in the art would have been motivated to make the combination to reduce the time needed to acquire synchronization with a signal such as a spread-spectrum signal (Dent, para. 46).

8. Regarding claims 32 and 40,

Preuss discloses a correlator 2100 (fig. 21) to despread a symbol (col. 15, lines 58-65).

9. Regarding claims 33 and 41,

Preuss shows in Fig. 21 an exclusive-or gate symbol.

10. Regarding claims 34 and 42 ,

Preuss discloses a receiver to detect the code using a correlator or matched filter (col. 3, lines 56-59).

11. Regarding claims 35 and 43,

Preuss does not disclose that the recovered data is access data.

Dent discloses in claim 25, second spread spectrum access codes (Dent, pg. 9, claim 25, lines 8-9).

It would have been *prima facie* obvious to one of ordinary skill in the art at the time of the invention was made to modify the data communication system of Preuss so that the recovered data of the second signal is an access data as taught by Dent. One skilled in the art would have been motivated to make the combination to reduce the time needed to acquire synchronization with a signal such as a spread-spectrum signal (Dent, para. 46).

12. Regarding claims 36 and 44,

Preuss does not disclose that the first signal and the second signal is received in an access channel.

Dent discloses that the using the code, an attempt is made to decode a broadcast control channel emitted by the transmitter (pg. 3, para. 14, lines 4-6).

It would have been *prima facie* obvious to one of ordinary skill in the art at the time of the invention was made to modify the data communication system of Preuss so that the first and second signals are received in broadcast channel as taught by Dent. One skilled in the art would have been motivated to make the combination since the control information is customarily transmitted in the broadcast channel.

13. Regarding claims 37 and 45,

Preuss does not disclose that the first signals are shorter than the second signal.

Dent discloses limiting the number of codes used for the first detection stage (para. 46).

It would have been *prima facie* obvious to one of ordinary skill in the art at the time of the invention was made to modify the data communication system of Preuss so that the first signals is shorter than the second signal as taught by Dent. One skilled in the art would have been motivated to make the combination to speed detection of any signal (para. 46, lines 4-5).

14. Regarding claim 39,

Preuss discloses a linear feedback shift register configured to produce a base code (col. 9, lines 5-6, 20-23, *codes are derived from a family of codes obtained from a base code...linear feedback shift register that generates... binary elements*).

Preuss discloses a transmitter configured to repeatedly transmit a first signal (col. 3, lines 53-59, *a pseudo-noise (P/N) code ... can be used to spread an information symbol for transmission*), each first signal including a first portion of the base code (fig. 13, *S-BLOCK 1306*, col. 5, lines 67 to col. 6, line 1, *S blocks are used for transmitting synchronization and frame number information*).

Preuss does not disclose that the first signals are used to aid in acquisition of a second signal and does not disclose wherein the transmitter is also configured to transmit the second signal after the transmission of the first signals, the second signals produced using the base code.

Dent discloses a multi-stage synchronization process wherein the first stage is designed to speed the detection of any signal, by limiting the number of codes used for the first detections stage and later stages of synchronization are performed using only the limited number of candidate signals defined by the parameters identified in the earlier stage (para. 46).

It would have been *prima facie* obvious to one of ordinary skill in the art at the time of the invention was made to modify the data communication system of Preuss to include a multi-stage synchronization process as taught by Dent. One skilled in the art would have been motivated to make the combination to reduce the time needed to acquire synchronization with a signal such as a spread-spectrum signal (Dent, para. 46).

15. Claims 38 and 46 are rejected under 35 U.S.C. 103(a) as being unpatentable

over Preuss in view of Dent, and in further view of U.S. Patent No. 6,853,675 B1 ("Oleynik").

Regarding claims 38 and 46,

Preuss and Dent does not disclose that the power level of the second signal is based on a transmission power level of the first signal.

Oleynik discloses automatically adjusting transmission power level by having the receiver process transmission power level control information of the received signal and having the transmitter adjust the transmission power level according to the transmission power in accordance with the received transmission power level control information (col. 4, lines 39-58).

It would have been *prima facie* obvious to one of ordinary skill in the art at the time of the invention was made to modify the data communication system of Preuss and Dent so that the power level can be optimally adjusted in a spread spectrum communication system as taught by Oleynik. One skilled in the art would have been motivated to make the combination so to balance the need to receive signals with satisfactory quality yet do not unnecessarily interfere with any other wireless terminals as is well known in the art of wireless communications.

Conclusion


The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- US5722051 (Agrawal teaches adaptive power control and coding scheme for mobile radio systems).
- US6212399B1 (Kumar) teaches controlling the power radiated by a wireless terminal system based on a variable size step.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anthony Sol whose telephone number is (571) 272-5949. The examiner can normally be reached on M-F 7:30am - 4pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hassan Kizou can be reached on (571) 272-3088. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



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